

CLAIMS

What is claimed is:

5 1. A method for providing a service, provided by an automated service apparatus, under remote user control using a first terminal device of the user that is connectable to a telecommunication network comprising an intelligent network including a control center having means for handling one of short messages and data calls, a second terminal device connectable to the telecommunication network and located in the automated service apparatus, a control unit located in the automated service apparatus and connected to the second terminal device and the automated service apparatus, means in the intelligent network for determining charge and location data and for producing voice messages, a first telecommunication connection establishable between the first terminal device and the telecommunication network, and a second telecommunication connection establishable between the telecommunication network and the second terminal device, said method comprising the steps of:

10 establishing the first telecommunication connection by user operation of the first terminal device to initiate a call from the first terminal device to a predetermined called subscriber number associated with the service to be provided by the automated service apparatus, the call initiated from the first terminal device being directed through the first telecommunication connection to the intelligent network of the telecommunication network;

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determining, in the intelligent network, charge data associated with the call; establishing, through the intelligent network in response to the establishing of the first telecommunication connection, the second telecommunication connection from the telecommunication network to the second terminal device; and

controlling the automated service apparatus, by operation of the control unit in response to establishing of the second telecommunication connection and subject to a state of the automated service apparatus, to carry out the service to be provided by the automated service apparatus in response to user establishment of the first telecommunication connection from the first terminal device by user initiation of the call to the predetermined called subscriber number.

2. A method in accordance with claim 1, wherein the service provided by the automated service apparatus comprises distribution of a product stored by the automated service apparatus, and wherein if one of the automated service apparatus runs out of the stored product and the automated service apparatus is currently busy servicing an earlier-received other-user request for the service, the method then further comprises the steps of:

operating the control unit to set the second terminal device to one of a busy state and a no-answer state to reflect current unavailability of the service; and

informing the user of the first terminal device of the current

20 unavailability of the service by means of a voice message transmitted to the user over the first telecommunication connection.

3. A method in accordance with claim 1, wherein the service provided by the automated service apparatus comprises distribution of any of a plurality of products stored by the automated service apparatus, and wherein if the automated service apparatus runs out of 5 all of the plural stored products, the method then further comprises the steps of:

operating the control device to shut off the second terminal device to reflect current unavailability of the service; and

informing the user of the first terminal device of the current unavailability of the service by means of a voice message transmitted to the user over the first telecommunication connection.

4. A method in accordance with claim 1, wherein in the event of a malfunction of the automated service apparatus, the method then further comprises the steps of:

15 operating the control unit to set the second terminal device to one of a busy state and a no-answer state to reflect current unavailability of the service; and

informing the user of the first terminal device of the current unavailability of the service by means of a voice message transmitted to the user over the first telecommunication connection.

5. A method in accordance with claim 1, wherein the automated service apparatus comprises a plurality of automated service apparatus at respectively geographically spaced apart locations, further comprising the steps of:

determining, in the intelligent network, a current location of the first

5 terminal device from which the call to the predetermined called subscriber number has been initiated using location data of the first terminal device; and

establishing the second telecommunication connection from the telecommunication network to a one of the plural automated service apparatus that is located nearest to the determined current location of the first terminal device.

10 6. A method in accordance with claim 1, further comprising the steps of:

identifying in the intelligent network a calling subscription associated with one of the user and the first terminal device from which the call has been initiated to establish the first telecommunication connection; and

15 verifying access rights, to the service, in the user based on subscriber access rights associated with the identified calling subscription.

7. A method in accordance with claim 1, further comprising the step of

transmitting, from the control unit to the control center, a current state of the automated 20 service apparatus in response to one of:

transmission of a status inquiry message from the control center to the second terminal device;

exhaustion of supply of the product stored in the automated service apparatus; and

5 a malfunction of the automated service apparatus.

8. A method in accordance with claim 1, further comprising the step of transmitting, from the control unit to the control center, a current state of the automated service apparatus over one of a data connection and a text message connection.

9. A system for providing a service, provided by an automated service apparatus, to a user under remote user control using a first terminal device of the user that is connectable to a telecommunication network, the telecommunication network comprising an intelligent network that includes means for determining charge and location data and for producing voice messages and a control center having means for handling one of short messages and data calls, the system comprising:

15 a second terminal device connectable to the telecommunication network and located in the automated service apparatus;

20 a control unit located in the automated service apparatus and connected to the second terminal device and to the automated service apparatus;

the telecommunication network having a predetermined called subscriber number associated with the service to be provided by the automated service apparatus such that, when user operation of the first terminal device initiates a call from the first terminal device to the predetermined called subscriber number, the telecommunication network

5 establishes a first telecommunication connection between the first terminal device and the telecommunication network, the intelligent network determines charge data associated with the call to the predetermined called subscriber number, and the telecommunication network establishes a second telecommunication connection between the telecommunication network and the second terminal device; and

15 wherein said control unit is operable for monitoring functions of the automated control apparatus, for monitoring the second telecommunication connection, and for controlling operation of the automated service apparatus in response to the establishment and monitoring of the second telecommunication connection to provide the service in response to user initiation of the call to the predetermined called subscriber number associated with the service to be provided by the automated service apparatus.

10. A system in accordance with claim 9, wherein said control unit is further operable for setting the second terminal device to one of a busy state and a no-answer state.

20 11. A system in accordance with claim 9, wherein said control unit is further operable for shutting off the second terminal device.

12. A system in accordance with claim 9, further comprising means in the telecommunication network for delivering, from the means for producing voice messages to the first terminal device through the first telecommunication connection, a voice message
5 informing the user of a current status of the automated service apparatus.

13. A system in accordance with claim 9, further comprising means in the telecommunication network for determining calling subscriber current location data for the first terminal device from which the call to the predetermined subscriber number has been initiated.

14. A system in accordance with claim 13, wherein the automated service apparatus comprises a plurality of automated service apparatus at respectively geographically spaced apart locations, each of the automated service apparatus having a respective second terminal device and a respective control unit located in the each automated service apparatus, and wherein the second telecommunication connection is established between the telecommunication network and a one of the plural automated service apparatus that is located nearest to the telecommunication network-determined current location of the first terminal device from which the call to the predetermined subscriber number has been initiated.

20 15. A system in accordance with claim 9, wherein the second terminal device includes means for transmitting and receiving one of short messages and data calls.

16. A system in accordance with claim 9, wherein said control unit comprises one of a computer and a microcontroller.

5 17. A system in accordance with claim 9, wherein said first terminal device comprises a mobile station.

18. A system in accordance with claim 9, wherein said first terminal device comprises a tone frequency telephone apparatus.